

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-005029**Date Inspected:** 27-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Geng Wei, Zhang Bao Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Assembly**Summary of Items Observed:**

This report serves to document the events occurring on this date at the following location. Caltrans Quality Assurance (QA) Inspector Robert Vatcher arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

OBG Assembly Bay II

5AE- No Observed Welding Activity

5BE- No Observed Welding Activity

5CE- No Observed Welding Activity

3AE- No deck panel to deck panel or diaphragm plate to floor beam flange welding occurring as of this time at DP56A & DP55A or DP53A & DP7A. No fit up and tacking as well. These joints are ready to be fit up and tacked.

3BE- No deck panel to deck panel or diaphragm plate to floor beam flange welding occurring as of this time at DP63A & DP64A or DP19A & DP61A. No fit up and tacking as well. These joints are ready to be fit up and tacked.

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4AE- QA observed that deck panels DP72A & DP30A, DP31A & DP69A complete joint penetration welds are completely filled out by the SAW process.

4BE- QA observed that deck panels DP79A & DP80A complete joint penetration welds are completely filled out by the SAW process.

No deck panel to deck panel or diaphragm plate to floor beam flange welding occurring as of this time at DOP77A & DP43A however this joint is partially filled out and required a Welding Repair Report (WRR) so that the bevel on the DP77A side can be brought into the correct tolerance

Mid bay-

Fit up and tacking being performed at SEG008A-001 side plates SP187-001 & SP188-001 by qualified welder Sun Lingling 048047 in the Flat position. QA performed a visual examination of this joint for compliance with AWS D1.5 (2002). Root opening was measured from .25 millimeters to 3.0 millimeters. As well the bevels appeared to be both 22.5 degrees for a 45 degree inclusive angel.

QA observed between bottom plates BPO303A & BP307A for segment SEG005A-006 where qualified welding operator He Junrong that welding related detritus existed directly in the root location where the welding arc was passing over. QA called over Zhang Bao Lei and apprised him of the situation. Mr. Lei immediately had the area power wire brushed and preheated. The above mentioned items as observed and documented by QA and QC corrected appears to be in conformance with the contract documents.

QA observed the in process joining of SEG006A-006 side plates BP306-001 & BP304-001 by the SAW process. QA measured welding parameters in accordance with welding procedure specification WPS-B-T-2221-B-L2C-S-2 utilizing non corroded or detritus bearing 4.0 mm diameter H14 electrode wire by qualified welding operator Chen Xi Feng 052692. Qualified welding status was verified by the presence of certification card from the welders pocket. Measured amperage at 580.0. Voltage at 32.0, travel speed at 460 mm per minute. Flux was reclaimed and strained through a large rare earth magnet and immediately reused. QA performed a cursory visual examination of the previously joined area prior to further depositing of weld metal. ZPMC QC personnel Wang Jie was present for this welding evolution. ZPMC QC personnel Chen Chih Ming was available as well. The above mentioned items as observed and documented by QA appears to be in conformance with the contract documents.

QA observed the in process joining of SEG009A-005 side plates SP180-001 & SP179-001 by the SAW process. QA measured welding parameters in accordance with welding procedure specification WPS-B-T-2221-B-L2C-S-2 utilizing non corroded or detritus bearing 4.0 mm diameter H14 electrode wire by qualified welding operator Wang Min 048296. Measured amperage at 600.0. Voltage at 32.0, travel speed at 530 mm per minute. Flux was reclaimed and strained through a large rare earth magnet and immediately reused. QA performed a cursory visual examination of the previously joined area prior to further depositing of weld metal. ZPMC QC personnel Weng Jie was present for this welding evolution. ZPMC QC personnel Chen Chih Ming was available as well. QA did observe dirt on portions of the electrode however Weng Jie had the welder clean the electrode with a wire brush. The above mentioned items as observed and documented by QA appears to be in conformance with the contract documents.

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5CW- No Observed Welding Activity

5BW- No Observed Welding Activity

5AW- No tack welds installed at diaphragm plate to floor beam flanges at panel point 28.

No deck panel to deck panel or diaphragm plate to floor beam flange welding occurring as of this time. No Observed Welding Activity elsewhere as well.

4BW- Random minimum tack welds installed at diaphragm plate to floor beam flanges at panel point 27.

Deck panels DP76A & DP75A, DP73A & DP39A complete joint penetration welds are completely filled out by the SAW process.

No tack welds installed at diaphragm plate to floor beam flanges at panel point 26.

4AW- Deck panels DP27A & DP65A, DP68A & DP67A complete joint penetration welds are completely filled out by the SAW process.

Tack welds installed at diaphragm plate to floor beam flanges at panel point 25.

3BW- Deck panels DP60A & DP59A, DP57A & DP15A complete joint penetration welds are completely filled out by the SAW process.

3AW- Tack welds installed at diaphragm plate to floor beam flanges at panel point 21.

Deck panels DP52A & DP51A, DP49A & DP3A complete joint penetration welds are completely filled out by the SAW process.

North Bay of OBG Assembly-

Side Plate to Side Plate fit up and tacking in progress at SP756A to SP518A. QA measured in process root openings to be at a maximum of 7.0 to 8.0 millimeters. ZPMC QC personnel Geng Wei is present for this operation

Back grinding operations being performed at Side Plate to Side Plate SP100A to SP127A.

Bottom plate to Bottom Plate joining operation by the FCAW welding process in the 1G position by qualified welding operator He Junrong. ZPMC QC personnel Zhang Xiao Ming is present for this welding operation. QA performed welding procedure specification (WPS) verification as well and observed the following. FCAW process utilizing 1.4 mm diameter Supercored 71H E71T-1 electrode wire in DCEP mode. Welder He Junrong 201215, a qualified welding operator was observed as well utilizing a stringer bead method for this evolution in the middle fill passes per the WPS-B-T-2231-B-U2-F-1. QA measured amperage to be 277 (average), voltage at 29.5 and a travel speed of approximately 495 mm per minute at BP90A to BP36A.

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North Sub-Assembly Area (Outside of OBG)

No observed joining operations

Summary of Conversations:

No relevant conversations this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Peter Dautermann, who represents the Office of Structural Materials for your project.

Inspected By:	Vatcher,Robert	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
